Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Cancelled)

2. (Previously presented) A solid oxide fuel cell stack comprising:
   a) an inner tubular solid oxide fuel cell comprising concentric inner and outer electrode layers sandwiching a concentric electrolyte layer;
   b) a middle tubular solid oxide fuel cell inside which the inner fuel cell is located, the middle fuel cell comprising a pair of concentric inner and outer electrode layers sandwiching a concentric electrolyte layer; and
   c) an outer tubular solid oxide fuel cell inside which the inner and middle fuel cells are located, the outer fuel cell comprising a pair of concentric inner and outer electrode layers sandwiching a concentric electrolyte layer;

   wherein the electrolyte layer of at least one of the inner, middle and outer tubular solid oxide fuel cells has a different composition and different optimal operating temperature range than another electrolyte layer in the stack, and the inner electrode of the inner fuel cell, outer electrode of the middle fuel cell, and the inner electrode of the outer fuel cell being one of an anode and cathode, and the outer electrode of the inner fuel cell, the inner electrode of the middle fuel cell, and the outer electrode of the outer fuel cell being the other of the anode and cathode.

3. (Previously presented) The fuel cell stack of claim 2 wherein the inner fuel cell has a Y_2O_3-doped ZrO_2 electrolyte, the middle fuel cell has a Sc_2O_3-doped ZrO_2 electrolyte, and the outer fuel cell has a doped-CeO_2 based electrolyte.

4. (Original) The fuel cell stack of claim 3 wherein the doped-CeO_2 based electrolyte is gadolinium cerium oxide.

5. (Previously presented) A solid oxide fuel cell stack comprising:

   a) at least one first inner tubular solid oxide fuel cell comprising concentric inner and outer electrode layers sandwiching a concentric electrolyte layer, and

   b) a first outer tubular solid oxide fuel cell inside which the first inner fuel cell is located, the first outer fuel cell comprising a pair of concentric inner and outer electrode layers sandwiching a concentric electrolyte layer,

   wherein the electrolyte layer of the first inner tubular solid oxide fuel cells has a different composition and optimal operating temperature range than the electrolyte layer of the first outer solid oxide fuel cell, and the inner electrode of the first inner fuel cell and outer electrode of the first outer fuel cell being one of an anode and cathode and the outer electrode of the first inner fuel cell and the inner electrode of the first outer fuel cell being the other of the anode and cathode.

6. (Original) The fuel cell stack of claim 5 wherein the outer fuel cell has an electrolyte composition selected from the group consisting of doped-CeO_2 based and Sc_2O_3-doped ZrO_2 type electrolytes.

7. (Original) The fuel cell stack of claim 6 wherein the doped-CeO_2 based electrolyte is gadolinium cerium oxide.

8. (Previously Presented) The fuel cell stack of claim 6 wherein the first inner fuel cell has a Y_2O_3-doped ZrO_2 electrolyte.

9. (Previously presented) The fuel cell stack of claim 5 further comprising a second inner tubular solid oxide fuel cell comprising concentric inner and outer electrode layers sandwiching a concentric electrolyte layer, and being located inside the first inner fuel cell, the inner electrode layer of the second inner fuel cell being the same electrode type (anode or cathode) as the outer electrode layer of the first inner fuel cell, and outer electrode layer of the second inner fuel cell being the same electrode type as the inner electrode layer of the first inner fuel cell,
wherein the electrolyte layer of the second inner tubular solid oxide fuel cell having a different composition and a different optimal operating temperature range than the electrolyte layer of at least one of the first inner and first outer tubular solid oxide fuel cells.

10. (Previously presented) The fuel cell stack of claim 9 wherein the electrolyte layer of the second inner fuel cell has the same composition as the electrolyte layer of the first inner fuel cell.

11. (Previously presented) The fuel cell stack of claim 9 wherein the first and second inner fuel cells have a Y_2O_3-doped ZrO_2 electrolyte, and the outer fuel cell has an electrolyte composition selected from the group consisting of doped-CeO_2 based and Sc_2O_3-doped ZrO_2 type electrolytes.

12. (Original) The fuel cell stack of claim 11 wherein the doped-CeO_2 based electrolyte is gadolinium cerium oxide.

13. (Previously presented) The fuel cell stack of claim 5 further comprising a second outer solid oxide fuel cell comprising concentric inner and outer electrode layers sandwiching a concentric electrolyte layer, and being located outside the first outer fuel cell, the inner electrode layer of the second outer fuel cell being the same electrode type (anode or cathode) as the outer electrode layer of the first outer fuel cell, and outer electrode layer of the second outer fuel cell being the same electrode type as the inner electrode layer of the first outer fuel cell,
the electrolyte layer of the second outer solid oxide fuel cell having a different composition and a different optimal operating temperature range than the electrolyte layer of at least one of the first inner and first outer tubular solid oxide fuel cells.

14. (Previously presented) The fuel cell stack of claim 13 wherein the electrolyte layer of the second outer fuel cell has the same composition as the electrolyte layer of the first outer fuel cell.

15. (Original) The fuel cell stack of claim 11 wherein the first inner fuel cell has a Y_2O_3-doped ZrO_2 electrolyte, and the first and second outer fuel cells have an electrolyte composition selected from the group consisting of doped-CeO_2 based and Sc_2O_3-doped ZrO_2 type electrolytes.

16. (Original) The fuel cell stack of claim 15 wherein the doped-CeO_2 based electrolyte is gadolinium cerium oxide.

17. (Original) The fuel cell stack of claim 15 wherein first inner fuel cell has a Y_2O_3-doped ZrO_2 electrolyte, the first outer fuel cell has an Sc_2O_3-doped ZrO_2 based electrolyte, and the second outer fuel cell has a doped-CeO_2 based electrolyte.

18. (Currently Amended) A solid oxide fuel cell stack comprising:

a) an electrically conductive support plate comprising a porous metal foam matrix sheet; and[[,]]

[[(]]b) a plurality of tubular solid oxide fuel cell sub-stacks arranged side-by-side on the support plate, wherein each fuel cell sub-stack:

comprises at least ~~one~~ two fuel cells comprising: ~~having concentric inner and outer electrode layers sandwiching a concentric electrolyte layer; and~~

a first inner tubular solid oxide fuel cell comprising concentric inner and outer electrode layers sandwiching a concentric electrolyte layer; and

a first outer tubular solid oxide fuel cell inside which the first inner fuel cell is located, the first outer fuel cell comprising a pair of concentric inner and outer electrode layers sandwiching a concentric electrolyte layer; and

is electrically interconnected to the support plate,

wherein:

the electrolyte layer of the first inner tubular solid oxide fuel cell has a different composition and optimal operating temperature range than the electrolyte layer of the first outer tubular solid oxide fuel cell; and

the inner electrode of the first inner tubular solid oxide fuel cell and outer electrode of the first outer tubular solid oxide fuel cell being one of an anode and cathode, and the outer electrode of the first inner tubular solid oxide fuel cell and the inner electrode of the first outer tubular solid oxide fuel cell being the other of the anode and cathode.

19. (Cancelled)

20. (Previously Presented) The fuel cell stack of claim 18 wherein the support plate further comprises a metal backing sheet overlaid with and attached to the foam matrix sheet.

21. (Original) The fuel cell stack of claim 20 wherein the backing sheet is perforated.

22. (Original) The fuel cell stack of claim 18 wherein the fuel cell sub-stack comprises at least two fuel cells wherein two of the fuel cells are

a) a first inner tubular solid oxide fuel cell comprising concentric inner and outer electrode layers sandwiching a concentric electrolyte layer, the electrolyte layer having a suitable composition to operate at or below a first maximum operating temperature, and

b) a first outer tubular solid oxide fuel cell inside which the first inner fuel cell is located, the first outer fuel cell comprising a pair of concentric inner and outer electrode layers sandwiching a concentric electrolyte layer, the electrolyte layer having a suitable composition to operate at or below a second maximum operating temperature that is lower than the first maximum operating temperature,

the inner electrode of the first inner fuel cell and outer electrode of the first outer fuel cell being one of an anode and cathode, and the outer electrode of the first inner fuel cell and the inner electrode of the first outer fuel cell being the other of the anode and cathode.

23. (Cancelled)

24. (Original) The fuel cell stack of claim 18 wherein the support plate comprises an electrically conductive metal support layer, and an oxidation-resistant layer coated on the metal support layer.

25. (Previously Presented) The fuel cell stack of claim 18 wherein the support layer comprises a metal support layer and a current conducting cathode layer coated on the support layer.

26. (Previously Presented) A method of manufacturing a solid oxide fuel cell comprising:

a) arranging a plurality of longitudinally-extending combustible cores side-by-side in a transversely spaced cluster;

b) using one of electrophoretic deposition, metal electrodeposition and composite electrodeposition to deposit enough inner electrode material onto the cores that the outer periphery of the cluster is covered with the electrode material thereby forming a continuous inner electrode layer around the cluster and the spaces in between the cores are filled with the electrode material;

c) depositing electrolyte material onto the inner electrode layer to form an electrolyte layer;

d) sintering the layers such that the combustible cores combust and a reactant channel is formed inside the inner electrode layer from each combusted core; and

e) applying an outer electrode layer onto the electrolyte layer.

27-28 (Cancelled)

29. (Previously Amended) The method of claim 26 wherein the cores are arranged side-by-side in a single row.

30. (Original) The method of claim 26 wherein the outer electrode layer is deposited by electophoretic deposition, and before the sintering step.

31-32 (Cancelled)

33. (Original) A method of manufacturing a solid oxide fuel cell stack comprising
    a) arranging a plurality of longitudinally-extending combustible cores side-by-side in a transversely spaced cluster;
    b) forming a plurality of fuel cells by one of electrophoretically depositing, metal electrodepositing and composite electrodepositing inner electrode material onto each core to form an inner electrode layer, then depositing an electrolyte material onto each core to form an electrolyte layer, and applying sufficient outer electrode material onto each electrolyte layer that the outer electrode layer of each fuel cell is physically coupled to an electrode layer of an adjacent fuel cell,
    c) sintering the layers such that the combustible cores combust, thereby forming an inner reactant channel for each fuel cell.

34. (Original) The method of claim 33 wherein the sintering step occurs after the electrolyte layer is deposited and before the outer electrode material is applied.

35 (Original) The method of claim 34 wherein the outer electrode layer is applied by one of dip-coating and brush-painting.

36 (Original) The method of claim 33 wherein the outer electrode material is applied onto the electrolyte layers by electrophoretic deposition, and the sintering step occurs after the outer electrode material is applied.

37 (Original) The method of claim 33 wherein after the inner electrode material and electrolyte material has been deposited, the cores are moved closer together before the outer electrode material is applied onto the electrolyte layers.

38 (New) A solid oxide fuel cell stack as claimed in claim 2 wherein the electrolyte layer of at least one of the inner or middle fuel cells has a different composition and a higher optimal operating temperature range than the electrolyte layer of the outer fuel cell.

39 (New) A solid oxide fuel cell stack as claimed in claim 2 wherein the inner fuel cell has a Y2O3-doped ZrO2 electrolyte, and the middle and outer fuel cells have a Sc2O3-doped ZrO2 electrolyte.

40 (New) A solid oxide fuel cell stack as claimed in claim 2 wherein the inner and middle fuel cells have a Y2O3-doped ZrO2 electrolyte, and the outer fuel cell has a Sc2O3-doped ZrO2 electrolyte.

41 (New) A solid oxide fuel cell stack as claimed in claim 2 wherein the inner and middle fuel cells have a Y2O3-doped ZrO2 electrolyte, and the outer fuel cell has a doped-CeO2 electrolyte.

42 (New) A solid oxide fuel cell stack as claimed in claim 2 wherein the inner fuel cell has a Y2O3-doped ZrO2 electrolyte, and the middle and outer fuel cells have a doped-CeO2 electrolyte.

43 (New) A solid oxide fuel cell stack as claimed in claim 5 wherein the electrolyte layer of the first inner fuel cell has a different composition and a higher optimal operating temperature range than the electrolyte layer of the first outer fuel cell.